What claimed is :

1. A method of a high stability selectable hydrogenate catalyst producing and using for DMCHD manufacturing.

(1) A preparing procedure for Ru/Al_2O_3 catalyst including:

a. putting 110 grams Al_2O_3 into a triple neck bottle in a suction of vacuum ;

b. heating said bottle a temperature of 110℃ for 6 hours ;

c. cooling to atmospheric temperature then stopping vacuum ;

d. to add a solution of 4.6 grams Ru/Cl_3 into said bottle and heating at a temperature of 60℃ ;

e. to dry solution of said solution by vacuum suction ; and

f. to heat said bottle in a heater at a temperature of 120℃ for 16 hours to preparation process therefore.

(2) An activity raising procedure for said catalyst including:

a. taking the intermediate product of Ru/Al_2O_3 catalyst out from said bottle which is prepared from step (1), and putting said intermediate product into a stainless steel breeder ;

b. to add hydrogen gas into said breeder with a predetermined velocity and heated at a temperature of 450℃ for 2 hours ; and

c. cooling to atmospheric temperature and then adding a small quantity of air for passivate the surface of said catalyst so as to get high stability catalyst ready for selectable hydrogenating in a DMCHD manufacturing process therefore.

(3) A DMCHD manufacturing process which said high stability catalyst is used for a selectable hydrogenating reaction

including:

a. putting said Ru/Al_2O_3 catalyst onto a fixing bed of a reactor ;

b. to dissolve DMT(dimethyl terephthalate) in to ethyl acetate solution ; and

c. guiding DMT solution into said reactor with a predetermined velocity for a selectable hydrogenate reaction to provide a high yield capacity capacity of DMCHD manufacturing in high stability for a long term.

2. A method for producing high stability selectable hydrogenate catalyst according to step(1) of claim 1, wherein said Al_2O_3 and $RuCl_3$ has a fixed ratio of 110:4.6075 by w.t..

3. A method for producing high stability selectable hydrogenate catalyst according to step(2) of claim 1, wherein said predetermined velocity of hydrogenate gas is 10 to 40 ml/min.

4. A DHCHD manufacturing process according to step(3) of claim 1, wherein a reaction temperature in said reactor is 100℃ to 140℃.

5. A DMCHD manufacturing process according to step(3) of claim 1, wherein a reaction pressure in said reactor is 700 to 800 psi.

6. A DMCHD manufacturing process according to step(3) of claim 1, wherein said MDT solution guided into said reactor has a velocity of 12 to 48 LHSV(h^{-1}).

7. A DMCHD manufacturing process according to step(3) of

claim 1, wherein said high production to step(3) of claim 1, wherein said high production ratio is over 90%.

8. A DMCHD manufacturing process according to step(3) of claim 1, wherein said catalyst has a long stability duration of 500 to 600 hours activation.